

01-822

REMARKS

Claims 1-20 are in the case. Claims 17-18 are allowed, and claims 5, 9-10, and 14-16 are indicated as allowable if rewritten in independent form, for which indication the applicants thank the examiner. Claims 1-3, 7-8, and 11-13 are rejected under 35 USC § 103 over USPN 6,315,883 to Mayer et al. Claims 4, 6, and 19-20 are rejected under 35 USC § 103 over Mayer et al. in view of USPN 6,149,830 to Lin et al. Claims 1, 5-9, and 11-14 are amended, and claims 10 and 19-20 are hereby cancelled. Reconsideration and allowance of the claims are respectfully requested.

CLAIM OBJECTIONS

Claims 5, 9-10, and 14-16 are objected to as depending from rejected base claims. However, the office action states that these claims would be allowable if rewritten so as to not depend from a rejected base claim, and to contain all the limitations of the base claim and any intervening claims. Applicants have amended claims 5 and 14 to be independent in the manner requested. Claim 9 has also been amended to be independent in the manner requested, and also to selectively include the matter of claim 10. Claim 10 has then been cancelled. Claims 15-16 depend from now allowable claim 14. Therefore, claims 5, 9, and 14-16 are now in an allowable form as specified by the examiner. Reconsideration and allowance are respectfully requested.

COMMENTS ON EXAMINER'S REMARKS

All of the claims have been amended to be in a form that the examiner has already indicated to be allowable, except for independent claim 1 and claims 2-4 which depend therefrom. Claim 1 has been amended to more specifically recite those steps of the method that define over the cited references. For example, claim 1 claims immersing the substrate in an electrically conductive solution *that does not contain appreciable amounts of the viscous material*, which immersing occurs *after the viscous material has been applied* to the surface of the electrically conductive layer. This amendment makes clear that the viscous material is not merely an additive to the solution in the bath, thus

01-822

overcoming the combination of Lin et al., which the examiner recites as teaching the use of glycerol as a viscosity enhancing additive to the solution in the bath.

Claim 1 is additionally amended to further distinguish over the cited references by reciting that the electrically conductive solution is agitated to *a degree known to selectively uncover* features that are relatively high *to a desired degree*, and thereby preferentially planarizing at least the features that are relatively high. This further reinforces the concept that the viscous material is not merely a bath additive, because such a bath additive would not selectively uncover any of the features based on their height as the solution was agitated. In addition, the amendment makes clear that the agitation of the solution is performed at a degree known to selectively uncover features to a desired degree, thus further tying the agitation to uncovering features, rather than merely stirring the bath such as to avoid clogging of an electrode.

Thus, claim 1 now recites more clearly those elements that have already been searched by the examiner. It is suggested that claims 1-4 are now patentable without further searching. Applicants further assert that, even if the examiner believes that claims 1-4 are still not allowable, the amendments definitely reduce the number of issues that would be on appeal, and thus should be entered, even though made after final rejection.

CLAIM REJECTIONS UNDER §103

Claims 1-3, 7-8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. Claims 7-8 and 11-13 have been amended to depend from allowable claim 5. Thus, only claims 1-3 remain under this rejection. Independent claim 1 claims, *inter alia*, a method for planarizing a surface having relatively high features and relatively low features, by applying a viscous material to the surface, whereby at least the relatively low features are covered, immersing the substrate in a solution that does not contain appreciable amounts of the viscous material, which immersing occurs after the viscous material has been applied to the surface, applying an electrical potential, and agitating the solution to a degree known to selectively uncover features that are relatively high to a desired degree, and thereby preferentially planarizing at least the features that are relatively high.

01-822

Mayer et al. do not describe such a process. Specifically Mayer et al. do not describe immersing the substrate in an electrically conductive solution that does not contain appreciable amounts of the viscous material, which immersing occurs after the viscous material has been applied to the surface of the electrically conductive layer. Mayer et al. also do not describe agitated the electrically conductive solution to a degree known to selectively uncover features that are relatively high to a desired degree, and thereby preferentially planarizing at least the features that are relatively high.

Therefore, claim 1 patentably defines over Mayer et al. Reconsideration and allowance of claim 1 are respectfully requested. Dependent claims 2-3 depend from independent claim 1, and contain additional important aspects of the invention. Therefore, dependent claims 2-3 patentably define over Mayer et al. Reconsideration and allowance of dependent claims 2-3 are respectfully requested.

Claims 4, 6, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. in view of Lin et al. Claim 6 has been amended to depend from allowable claim 5, and claim 19-20 have been cancelled. Claim 4 depends from claim 1, and therefore claims, *inter alia*, a method for planarizing a surface having relatively high features and relatively low features, by applying a viscous material to the surface, whereby at least the relatively low features are covered, immersing the substrate in a solution that does not contain appreciable amounts of the viscous material, which immersing occurs after the viscous material has been applied to the surface, applying an electrical potential, and agitating the solution to a degree known to selectively uncover features that are relatively high to a desired degree, and thereby preferentially planarizing at least the features that are relatively high.

The deficiencies of Mayer et al. in regard to this combination of limitations are described above. Lin et al. do not remedy the deficiencies of Mayer et al., in that Lin et al. also do not describe immersing the substrate in an electrically conductive solution that does not contain appreciable amounts of the viscous material, which immersing occurs after the viscous material has been applied to the surface of the electrically conductive layer. Lin et al. also do not describe agitated the electrically conductive solution to a degree known to selectively uncover features that are relatively high to a desired degree, and thereby preferentially planarizing at least the features that are relatively high.

01-822

Applicants again assert that Mayer et al. and Lin et al. are so different, that the combination of the two references is improper. However, as mentioned above, even when combined in the specific manner as described in the office action, the two references omit essential elements of the present invention as claimed.

Therefore, claim 4 patentably defines over Mayer et al. in view of Lin et al. Reconsideration and allowance of claim 4 are respectfully requested.

CONCLUSION

Applicants assert that the claims of the present application patentably define over the prior art made of record and not relied upon for the same reasons as given above. Applicants respectfully submit that a full and complete response to the office action is provided herein, and that the application is now fully in condition for allowance. Action in accordance therewith is respectfully requested.

In the event this response is not timely filed, applicants hereby petition for the appropriate extension of time and request that the fee for the extension be charged to deposit account 12-2355. If other fees are required by this amendment, such as fees for additional claims, such fees may be charged to deposit account 12-2252. Should the examiner require further clarification of the invention, it is requested that s/he contact the undersigned before issuing the next office action.

Sincerely,

LUEDEKA, NEELY & GRAHAM, P.C.

By: 

Rick Barnes, 39,596

2005.03.17